



## Expected shifts in *Fusarium* species' composition on cereal grain in Northern Europe due to climatic change

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### Abstract:

In Northern Europe, changes in climate may result in better growing conditions for many crops. However, the expected warmer and more humid conditions are favourable for *Fusarium* head blight infections on cereals. The *Fusarium* species prevalent in Nordic areas to date are the same as in Central Europe: *F. avenaceum*, *F. culmorum*, *F. graminearum* and *F. poae*. The prevalence of *F. graminearum* in cereal grain has already increased in Central Europe and is likely to increase in the North due to the expected changes in weather conditions, reduced tillage and the predicted increase in maize cultivation in Nordic countries. The possible weather extremes predispose cereals to *Fusarium* infections by increasing the populations of insect pests injuring plants. Adverse conditions may even create conditions suitable for *F. subglutinans* or *F. verticilloides* to infect maize and possibly other cereals in rotation in southern parts of Scandinavia. The importance of the species that infect in relatively dry conditions, *F. langsethiae* and *F. poae*, may also increase on winter cereals which are predicted to be more prevalent in future farming. If the number of crop species cultivated will increase and non-cereal crops are included in rotations effects of reduced tillage on *Fusarium* infections in grain could be limited. The predicted changes in climate towards 2050 are expected to slightly change *Fusarium* species composition in Northern Europe. An increase in *F. graminearum* and possibly the invasion of northern parts of Central Europe and Denmark by fumonisin producers is expected.

**Source:** <http://dx.doi.org/10.1080/19440049.2012.680613>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Quality, Food/Water Security

**Food/Water Quality:** Biotoxin/Algal Bloom

**Food/Water Security:** Agricultural Productivity

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

# Climate Change and Human Health Literature Portal

## Geographic Location:

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**European Region/Country:** European Region

**Other European Region:** Northern Europe

## Health Impact:

specification of health effect or disease related to climate change exposure

Other Health Impact

**Other Health Impact:** mycotoxins

## Resource Type:

format or standard characteristic of resource

Review

## Timescale:

time period studied

Time Scale Unspecified